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Park et al.

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(54) **FLEXIBLE DISPLAY WITH BENT EDGE REGIONS**

(71) Applicant: **Apple Inc.**, Cupertino, CA (US)

(72) Inventors: **Young Bae Park**, San Jose, CA (US); **Shih Chang Chang**, Cupertino, CA (US); **Vasudha Gupta**, Cupertino, CA (US)

(73) Assignee: **Apple Inc.**, Cupertino, CA (US)

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(52) **U.S. Cl.**

CPC ***H01L 27/1259*** (2013.01); ***H01L 27/1218*** (2013.01); ***H01L 27/3276*** (2013.01); ***H01L 51/0097*** (2013.01); *H01L 2251/5338* (2013.01); *Y02E 10/549* (2013.01)

(58) **Field of Classification Search**

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See application file for complete search history.

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Primary Examiner — Allan R Wilson

(74) *Attorney, Agent, or Firm* — Treyz Law Group, P.C.; G. Victor Treyz; Zachary D. Hadd

(57) **ABSTRACT**

An electronic device may have a flexible display with portions that are bent along a bend axis. The display may have display circuitry such as an array of display pixels in an active area. Contact pads may be formed in an inactive area of the display. Signal lines may couple the display pixels to the contact pads. The signal lines may overlap the bend axis in the inactive area of the display. During fabrication, an etch stop may be formed on the display that overlaps the bend axis. The etch stop may prevent over etching of dielectric such as a buffer layer on a polymer flexible display substrate. A layer of polymer that serves as a neutral stress plane adjustment layer may be formed over the signal lines in the inactive area of the display. Upon bending, the neutral stress plane adjustment layer helps prevent stress in the signal lines.

16 Claims, 13 Drawing Sheets